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PATENT
0020-4633P

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of		Before the Board of Appeals	
KATO, Akira		Appeal No.:	
Appl. No.:	09/450,649	Group:	3711
Filed:	November 30, 1999	Examiner:	R. GORDON
Conf.:	7969		
For:	THREAD WOUND GOLF BALL		

APPEAL BRIEF TRANSMITTAL FORM

Assistant Commissioner for Patents
Washington, D.C. 20231:

February 21, 2003

Sir:

Transmitted herewith is an Appeal Brief (in triplicate) on behalf of the Appellants in connection with the above-identified application.

☐ The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. 1.8.

A Notice of Appeal was filed on November 21, 2002.

☐ Applicant claims small entity status in accordance with 37 C.F.R. § 1.27

The fee has been calculated as shown below:

☒ Extension of time fee pursuant to 37 C.F.R. §§ 1.17 and 1.136(a) - $110.00 (one month for large entity).

☒ Fee for filing an Appeal Brief - $320.00 (large entity).

☒ Check(s) in the amount of $110.00 and $320.00 are attached.

☐ Please charge Deposit Account No. 02-2448 in the amount of $0.00. A triplicate copy of this sheet is attached.

02/25/2003 CV0111 00000040 09450649

02 FC:1251 110.00 OP

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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(0020-4633P)

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TABLE OF CONTENTS

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TABLE OF AUTHORITIES

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Other Authorities

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11-4-03
#20/APPEAL BRIEF

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APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

February 21, 2003

Sir:

The enclosed Appeal Brief is respectfully submitted in reference to the above-identified application.. The due date for response has been extended by one (1) month to February 21, 2003.

I. REAL PARTY IN INTEREST

The real party in interest of the present invention is Sumitomo Rubber Industries, Ltd. of Hyogo-ken, Japan. This party is the assignee by Assignment recorded March 1, 2000 at Reel 10677, Frames 714, 716.

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II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to Appellants or their representatives that have a bearing on the Board's decision.

III. STATUS OF CLAIMS

Claims 1-4 stand finally rejected on August 23, 2002. These rejected claims were appealed by Notice of Appeal on November 21, 2002. A copy of the claims under appeal is furnished In APPENDIX I, attached hereto.

IV. STATUS OF THE AMENDMENTS

Claim 1 was amended in its present form under appeal on November 15, 2001 in a Preliminary Amendment. A marked-up version of the changes made to claim 1 by the Preliminary Amendment of November 15, 2001, is attached as APPENDIX II.

V. SUMMARY OF THE INVENTION

The present invention is directed to a thread wound golf ball which is made up of:

(a) a solid center composed of an inner center core formed from a vulcanized molded rubber composition containing an oily substance, and a center outer layer formed from an oil-resistant thermoplastic elastomer that is composed of hard segment and soft segment, and coated around the inner center so as to prevent the oily substance of the inner center from bleeding, (Specification, pages 13 and 14, particularly, page 14, lines 2-7, also particularly, page 13, lines 20-22); and

(b) a thread rubber layer formed on the solid center, and

(c) a cover covering the thread rubber layer, wherein

the inner center has a diameter of 24 to 33 mm, a JIS-A hardness of not more than 50 and a deformation amount of not less than 2.0 mm when applying from an initial load of 1 kg to a final load of 5 kg,

the center outer layer has a Shore D hardness of not more than 60 and is formed from a composition containing thermoplastic elastomer as defined in (1) above, and

the solid center has a diameter of 25 to 34 mm. (Specification at page 6, lines 1-18.)

VI. ISSUES

1. Whether claim 1 is patentable over Yabuki et al. (USP 5,716,293) (the '293 Patent) as unobvious under 35 U.S.C. § 103(a).

2. Whether claim 2 is likewise patentable over the '293 Patent as unobvious under 35 U.S.C. § 103(a).

3. Whether claim 3 is patentable over the '293 Patent as unobvious under 35 U.S.C. § 103(a).

4. Whether claim 4 is patentable over the '293 Patent as unobvious under 35 U.S.C. § 103(a).

VII. GROUPING OF THE CLAIMS

The claims are considered to be separate and independent of one another as to the foregoing issues and Group I is considered to be comprised of claim 1; Group II is considered to be comprised of claim 2; Group III is considered to be comprised of claim 3; and Group IV is considered to be

comprised of claim 4. As stated hereinabove, it is Applicant's position that each of claims 1, 2, 3 and 4 are each to be considered separately by the Board and that they stand or fall separately and not together. For example, Claim 1 is directed to a a thread wound golf ball comprising:

(a) a solid center composed of an inner center formed from a vulcanized molded rubber composition containing an oily substance, and a center outer layer formed from an oil-resistant substance selected from the group consisting of polyurethane thermoplastic elastomer, polyester thermoplastic elastomer, polyamide thermoplastic elastomer and a mixture thereof that is composed of hard segment and soft segment, and coated around the inner center so as to prevent the oily substance of the inner center from bleeding.

The second group is claim 2, which is directed to a cover Shore D hardness of 40-65.

The third group is directed to a thread wound golf ball according to claim 1, wherein the thermoplastic resin is present in an amount of not less than 50% by weight based on the total weight of the center outer layer.

The fourth group is claim 4, which is a thread wound golf ball as defined in claim 1, but with the further limitation that the cover has a thickness of one to three millimeters.

The Board may very well find that one or more of these claims are patentable while one or other of the claims may not be held by the Board to be patentable. However, it is Applicant's position that all claims are patentable in view of the arguments which follow.

VIII. ARGUMENT

1. Claim 1 is Patentable Over Yabuki et al.

Claim 1 is rejected under 35 U.S.C. § 103(a) as obvious over Yabuki et al. The cited Yabuki et al. reference was recognized by the present Applicant in the specification at page 4 when the specification described the disclosure of the Japanese Patent Kokai Publication No. 173504/1997. The Yabuki et al. reference employs thermoplastic resin (ionomer resin), and oil resistant rubber as an oil resistant coating layer (column 3, lines 29-47 of Yabuki et al.).

The present invention overcomes the drawbacks of the cited Yabuki et al. invention as set forth in the priority document for the U.S. Patent 5,716,293, namely, the Japanese 173504, which is the Kokai Publication No. in 1997. The advance in the art over the cited Yabuki et al. invention is an improvement in the outer layer of the center of the golf ball, which is made of an oil-resistant rubber or ionomer resin, that is, a thermoplastic resin. This substance has a high hardness and the rebound characteristics of the resultant golf ball are inferior as well as poor shot feel when compared to the golf balls made according to the present specification which calls for thermoplastic elastomers, not thermoplastic resins. (Specification, page 14, lines 2-7.) According to the presently claimed invention, the outer layer of the center is made out of either a polyurethane thermoplastic elastomer or a polyester thermoplastic elastomer or a polyamide thermoplastic elastomer, or mixtures thereof. The golf ball claimed in claim 1 is further limited as to the outer layer of the center, since the outer layer is not only made with these specific thermoplastic elastomers, but also is composed of a hard segment and a soft segment. This improves the rebound characteristics and shot feel of the resultant golf ball.

Yabuki et al. does not disclose such an improvement over the outer layer composition of the center of the golf ball described in the Yabuki et al. reference. Applicant has explained the differences in the terminology of thermoplastic resins versus elastomers, and has submitted evidence in the form of printed publications to support this position (Response After Final Rejection dated October 17, 2001, pages 2-4). The Examiner has not submitted any contrary evidence, but merely stated that the Examiner "fails to see a patentable distinction between the oil-resistant layer of the present invention and the Yabuki et al. reference." (Paper No. 11, paragraph 6.) Applicant has pointed out a patentable distinction in the improvement, which is surprising and unexpected over the rebound characteristics and the shot feel of the present invention compared to Yabuki et al. Any presumption raised by the Examiner's citation of Yabuki et al. and arguments based thereon, is believed to have been overcome by the printed evidence and this argument.

It is respectfully submitted that the Examiner has not given a satisfactory reason for rejecting claim 1 by stating that she "fails to see a patentable distinction between the resistant layer of the present invention and the Yabuki et al. reference." This not a sufficient reason as it does not explain how she arrived at this conclusion and is not in accord with the legal precedents such as *In re Lee*, 61 USPQ 2d 1430, 1433-1435 (CAFC 2002).

The Yabuki et al. reference employs thermoplastic resin (ionomer resin), and oil resistant rubber as an oil resistant coating layer (column 3, lines 29-47 of Yabuki et al.).

The improvement of the present invention over the cited Yabuki et al. invention is in the outer layer of the center of the golf ball. But Yabuki et al. has an outer layer of the center which is made of an oil-resistant rubber or ionomer resin, which has a high hardness and the rebound characteristics of the resultant golf ball of Yabuki et al. are inferior to the present invention because

of poor shot feel of the golf ball when compared to the golf balls made according to the present specification which calls for thermoplastic elastomers. According to the present invention, the outer layer of the center is made out of either a polyurethane thermoplastic elastomer or a polyester thermoplastic elastomer or a polyamide thermoplastic elastomer, or mixtures thereof. (Specification, page 14, lines 2-7). Claim 1 includes the further limitation on the outer layer of the center, that not only should the outer layer be made with these specific thermoplastic elastomers, but also that they be composed of a hard segment and a soft segment. This is in order to improve the rebound characteristics and shot feel of the resultant golf ball. Yabuki et al. does not teach, disclose or suggest such an improvement in the structure of the golf ball.

Applicant has explained the differences in the terminology of resins and elastomers, and submitted printed publications to support his position in the Response dated October 17, 2001 (Paper No. 10).

Tests were carried out to show the respective golf balls made according to the present invention and those made without elastomers: these tests are described in the present specification (Specification, pages 29-32). These tests prove that when a thermoplastic resin (ionomer) is employed in the cover of the center in thread wound golf balls, the golf ball is inferior in performance to that of a similar golf ball having a thermoplastic elastomer in the center core outer layer, as explained in the specification at page 32.

The Applicant respectfully disagrees with the "Response to Arguments" on page 3 of Paper No. 17 (the Final Rejection of August 23, 2002). Regarding the term "thermoplastic elastomer," it is clear that a "thermoplastic elastomer" does not mean the same thing as "thermoplastic resin" when applied to the outer layer of the center of a thread wound golf ball as

in the present invention. Persons skilled in making golf balls do not consider thermoplastic resins such as "ionomer resins" to be the same term and have the same meaning as the term "thermoplastic elastomer." This is supported by the *Ullmann's Encyclopedia of Industrial Chemistry*, Fifth Edition, pages 633-664, Volume A26 and A20, pages 543-544, and *Kirk-Othmer, Encyclopedia of Chemical Technology*, Fourth Edition, Volume 9, Elastomers, page 1 and Thermoplastic Elastomers, page 15. (Paper No. 10, Appendices 1, 2 and 3.), which were attached to the Amendment dated October 17, 2001). These references do not categorize thermoplastic elastomers as resins, and no skilled person would do so.

The Examiner has not submitted any contrary evidence, but merely stated that the Examiner fails to see a patentable distinction between the oil-resistant layer of the present invention and the Yabuki et al. reference. Applicant has pointed out a patentable distinction in the improvement, which is surprising and unexpected over the rebound characteristics and the shot feel of the present invention compared to golf balls that are made without thermoplastic elastomers. (Specification, pages 29-32). It is respectfully submitted that any presumption raised by the Examiner's citation of Yabuki et al. and arguments based thereon, has been overcome by the aforesaid printed evidence and the test data in Applicant's Specification.

2. Claim 2 is Patentable over the Yabuki et al. Reference

The thread wound golf ball according to claim 2 is as defined in claim 1, but with the added limitation that the cover of the golf ball has a Shore D hardness of 40 to 65. The cover, according to the present invention, may be formed from thermoplastic resin, particularly ionomer resins or mixtures thereof. (Specification, page 16, lines 8-10.) The cover is limited to a Shore D

hardness in a range of from 40 to 65. (Specification, page 21, line 21.) The hardness of the cover is critical to the performance of the golf ball and it is this critical combination of all of the elements that make up the golf balls hardness or softness that together contribute to a golf ball with appropriate rebound and hardness characteristics, so that the performance is as desired. There is nothing in the Yabuki et al. reference that suggests that a golf ball having the structure as claimed in claim 2 with the hardness for the cover as claimed in claim 2 will perform better than a golf ball made according to the teaching of Yabuki et al. Accordingly, in view of the resultant tests as described hereinabove in Issue No. 1, it is respectfully submittted that any presumption of obviousness which has been raised by the Examiner's citing of the Yabuki et al. reference has been overcome as to claim 2 of the present application.

3. Claim 3 of the Present Application is Patentable over Yabuki et al

Claim 3 is directed to the amount of the oil resistant outer layer which is formed over the center wherein the amount of this cover over the center is not less than 50% by weight based on the total weight of the center outer layer. This is discussed on page 14 of the specification in the first full paragraph, beginning at line 7 through line 16. It is clear from this discussion that when the amount of the thermoplastic resin for the cover of the center is discussed, that reference is made to the particularly preferred aspect of the invention, which is either a polyurethane plastic elastomer, a polyester thermoplastic elastomer, a polyamide thermoplastic elastomer or the mixture thereof. (Specification, page 14, lines 2-7.) The proportion by weight of the thermoplastic element in the cover of the center is critical as is seen from lines 13-16 on page 14 of the specification. Thus, the thermoplastic element must be not less than 50% and most

preferably not less than 90% by weight so that the high rebound characteristics and good shot feel of the resulting golf ball can be obtained as has been shown on pages 29-32 in the test described in the specification therein. Thus, it is respectfully submitted that the subject matter of claim 3 is clearly patentable over the Yabuki et al. reference.

4. Claim 4 Defines a Patentable Invention over Yabuki et al

Claim 4 is directed to a thread wound golf ball as defined in claim 1, wherein the cover has a thickness of 1 to 3 mm. This is disclosed in the Specification at page 22, line 16. This is a critical dimension for the thickness of the cover as described in the Specification, page 22, lines 16-21. Thus, the thickness of the cover is important to control the shot feel as well as the strength of the cover against breakage, which would interfere with the spin and rebound characteristics of the golf ball. Thus, this dimension is of critical importance and the golf balls prepared according to the invention and described in the testing in the Specification, pages 29-32, support the patentability of these golf balls. The facts regarding the performance of the golf ball according to the invention speak for themselves. Thus, it is respectfully submitted that any presumption of obviousness raised by the Examiner in citing the Yabuki et al. reference is overcome.

In view of the foregoing argument, it is respectfully urged that the honorable Board of Patent Appeals and Interferences reverse the rejection of all claims in this appeal.

The required Appeal Brief fee in the amount of $320.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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APPENDIX I

1. (Twice Amended) A thread wound golf ball comprising:

(a) a solid center composed of an inner center formed from a vulcanized molded rubber composition containing an oily substance, and a center outer layer formed from an oil-resistant ~~substance~~ thermoplastic resin selected from the group consisting of polyurethane thermoplastic elastomer, polyester thermoplastic elastomer, polyamide thermoplastic elastomer and a mixture thereof that is composed of hard segment and soft segment, and coated around the inner center so as to prevent the oily substance of the inner center from bleeding,

(b) a thread rubber layer formed on the solid center, and

(c) a cover covering the thread rubber layer, wherein

the inner center has a diameter of 24 to 33 mm, a JIS-A hardness of not more than 50 and a deformation amount of not less than 2.0 mm when applying from an initial load of 1 kg to a final load of 5 kg, wherein

the center outer layer has a Shore D hardness of not more than 60 ~~and is formed from a resin composition mainly containing thermoplastic resin~~, and

the solid center has a diameter of 25 to 34 mm.

2. The thread wound golf ball according to claim 1, wherein the cover has a Shore D hardness of 40 to 65.

3. The thread wound golf ball according to claim 1, wherein the thermoplastic resin is presented in the amount of not less than 50% by weight, based on the total weight of the center outer layer.

4. The thread wound golf ball according to claim 1, wherein the cover has a thickness of 1.0 to 3.0 mm.

APPENDIX II

1. (Twice Amended) A thread wound golf ball comprising

(a) a solid center composed of an inner center formed from a vulcanized molded rubber composition containing an oily substance, and a center outer layer formed from an oil-resistant substance selected from the group consisting of polyurethane thermoplastic elastomer, polyester thermoplastic elastomer, polyamide thermoplastic elastomer and a mixture thereof that is composed of hard segment and soft segment, and coated around the inner center so as to prevent the oily substance of the inner center from bleeding,

(b) a thread rubber layer formed on the solid center, and

(c) a cover covering the thread rubber layer, wherein

the inner center has a diameter of 24 to 33 mm, a JIS-A hardness of not more than 50 and a deformation amount of not less than 2.0 mm when applying from an initial load of 1 kg to a final load of 5 kg,

the center outer layer has a Shore D hardness of not more than 60 and is formed from a resin composition mainly containing thermoplastic resin, and

the solid center has a diameter of 25 to 34 mm.